

Application Serial No.: 10/655,143
Reply to Office Action of January 10, 2008

Atty. Dkt. No.
UCF-375

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1 - 26 (Canceled).

Claim 27 (Currently Amended). A method for enhancing the survivability of living biological cells in the body comprising:

selecting a plurality of living biological cells in the body, wherein the cells are brain cells;

adding one single application of non agglomerated, ultra fine, engineered nanoparticles of cerium oxide of the size approximately 2 nm to approximately 10 nm wherein the nanoparticles contain a plurality of oxygen vacancies in a lattice structure and the oxygen vacancies support biological activity as free radical scavengers to cultures of the plurality of living biological brain cells; and

enhancing a lifespan of the living brain cells in the body when the cerium oxide particles function as a regenerative free radical scavenger wherein after one free radical scavenging event has occurred, the cerium oxide particles remain biologically available for more than one free radical scavenging event, wherein the method for enhancing survivability is not topically applied outside the body.

Claim 28 (Canceled)

Claim 29 (Currently Amended). The method of claim 27, wherein the living brain cells are wounded tissues in the body.

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Claims 30 – 31 (Canceled).

Claim 32 (Currently Amended). The method of claim 27, further comprising methods the step of coating at least one of a stent and other vascular replacements to decrease free radical damage associated with vascular disease and inflammatory response.

Claim 33 (Currently Amended). The method of claim 27, further comprising the step of administering wherein the cerium oxide nanoparticles are administered by at least one of oral pharmaceutical composition, intravenous injection and intrathecal delivery.